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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/683,773	02/13/2002	Herbert Lyvirn Lacey III	56162.000375	9484

21967 7590 10/06/2004	EXAMINER	
HUNTON & WILLIAMS LLP	PUENTE, EMERSON C	
INTELLECTUAL PROPERTY DEPARTMENT		
1900 K STREET, N.W.	ART UNIT	PAPER NUMBER
SUITE 1200	2113	
WASHINGTON, DC 20006-1109		

DATE MAILED: 10/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *13 February 2002*.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-18* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-18* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date *20020513*.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____ .

DETAILED ACTION

This action is made Non-Final. Claims 1-18 have been examined.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 5-8, 11-14, 17, and 18 are rejected under 35 U.S.C. 102(b) as being

anticipated by US Patent No. 5,930,807 of Ebrahim et al. referred hereinafter "Ebrahim".

In regards to claim 1, 7, and 13 Ebrahim discloses:

assigning a unique ownership tag to a buffer using component. Ebrahim discloses a root

set which is a data structure that includes a pointer to an object (see column 2 lines 9-12 and

column 3 lines 52-55). In order for a root set to reference or point to the object or buffer using

component, the object must have an identifier or unique ownership tag.

allocating a memory buffer to the buffer using component during task performance.

Ebrahim discloses a root set or memory buffer, which is a data structure that includes a pointer to

an object or buffer using component (see column 2 lines 9-12 and column 3 lines 52-55).

tagging the allocated memory buffer with the unique ownership tag as the memory buffer

is used for task performance. Ebrahim discloses a root set or memory buffer, which is a data

structure that includes a pointer or unique ownership tag to an object or buffer using component (see column 2 lines 9-12 and column 3 lines 52-55)

completing task performance by the buffer using component (see column 3 lines 15-20)

searching all available memory buffers for the unique memory ownership tag. Ebrahim discloses a technique to recover from memory leaks called garbage collection that searches memory to locate a "root set", or unique memory ownership tag, of object references or pointers used by a mutator task or buffer using component (see column 1 lines 53-57); and

determining whether any memory buffer is assigned the unique ownership tag. Ebrahim disclose locating a root set (see column 1 lines 53-57).

In regards to claims 2, 8 and 14, Ebrahim discloses:

generating a log of occurrences of the unique memory ownership tag, indicating memory buffers which have not been reallocated to a buffer pool. Ebrahim disclose copying all accessible objects to a contiguous block of memory (see column 3 lines 50-55). A log must be created of roots and associated objects in order to know which objects to copy to a new contiguous block of memory. Objects from blocks of memory that are not copied indicate memory buffers that have not been reallocated to a buffer pool.

In regards to claim 5, 11, and 17 Ebrahim discloses:

assigning a unique ownership tag to a buffer using component. Ebrahim discloses a root set which is a data structure that includes a pointer to an object (see column 2 lines 9-12 and column 3 lines 52-55). In order for a root set to reference or point to the object or buffer using component, the object must have an identifier or unique ownership tag.

allocating a memory buffer to the buffer using component during task performance.

Ebrahim discloses a root set or memory buffer, which is a data structure that includes a pointer to

an object or buffer using component (see column 2 lines 9-12 and column 3 lines 52-55).

tagging the allocated memory buffer with the unique ownership tag as the memory buffer

is used for task performance. Ebrahim discloses a root set or memory buffer, which is a data

structure that includes a pointer or unique ownership tag to an object or buffer using component

(see column 2 lines 9-12 and column 3 lines 52-55)

identifying a system failure. Ebrahim discloses garbage collection that identify

inaccessible objects or memory leaks (see column 3 lines 50-65).

searching all available memory buffers for the unique memory ownership tag. Ebrahim

discloses a technique to recover from memory leaks called garbage collection that searches

memory to locate a "root set", or unique memory ownership tag, of object references or pointers

used by a mutator task or buffer using component (see column 1 lines 53-57); and

determining whether any memory buffer is assigned the unique ownership tag.

Ebrahim disclose locating a root set (see column 1 lines 53-57).

In regards to claims 6, 12, and 18, Ebrahim discloses:

generating a log of occurrences of the unique memory ownership tag, indicating memory

buffers which have not been reallocated to a buffer pool. Ebrahim disclose copying all accessible

objects to a contiguous block of memory (see column 3 lines 50-55). A log must be created of

roots and associated objects in order to know which objects to copy to a new contiguous block of

memory. Objects from blocks of memory that are not copied indicate memory buffers that have

not been reallocated to a buffer pool.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 3, 4, 9,10, 15 and 16 are rejected under 35 U.S.C. § 103(a) as being unpatentable

over Ebrahim in view of US Patent No. 4,922,491 of Coale.

In regards to claim 3, 4, 9,10, 15 and 16, Ebrahim disclose

determine that any memory buffer is assigned the unique ownership tag (see column 1

liens 53-57)

However Ebrihim fails to disclose:

automatically notifying a system administrator, wherein the step of automatically

notifying a system administrator further comprises periodically notifying the system

administrator.

However, Coale discloses generating a report periodically noting potential error events

that took place since the last report, indicating automatically notifying a system administrator,

wherein the step of automatically notifying a system administrator further comprises periodically

notifying the system administrator (see column 2 lines 32-35)

It would have been obvious to one of ordinary skill in the art at the time the invention

was made to combine the teachings of Ebrihim and Coale. A person of ordinary skill in the art

would have been motivated to automatically notifying a system administrator, wherein the step

of automatically notifying a system administrator further comprises periodically notifying the

system, as per teaching of Coale, to determine if the event recorder represent a problem and

whether corrective action is needed (see column 2 lines 35-40).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

See Form PTO-892.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Emerson C Puente whose telephone number is (703) 305-8012.

The examiner will be moving in October 13, 2004. The examiner number at the new site is (571)

272-3652. The examiner can normally be reached on 8-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Robert W Beausoliel can be reached on (703) 305-9713. The fax phone number for

the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the receptionist whose telephone number is (703) 306-5631.

Emerson Puente
9/29/04

ROBERT BEAUSOLIEL
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100